

**You can only
pass on rights
you hold**

?

**...a principal
of compliant
Software Licensing**



License Compliant Delivery

Impulses **for**  **@KIT**
Research Software Engineering at KIT

Dr. Dirk Feuchter(IRM)

2nd Workshop on RSE@KIT, CN-Geb.449-R140, 7.7.25



Impulses for LCD at KIT:

1. Exploiting through KIT's Technology Transfer
2. Intradisciplinary Cross-unit Collaboration
 - OSS-AK, OSS-Handout, 9.1.4 LCD-Team
→ neulandtag, deRSE2025, ...
3. Tools (*Reuse, Fossology, ...*)
4. Join in + learn from „Associations“
5. Exchange with Research Partners → Guidelines
6. Exchange with external LCD Experts
7. Cyber Resilience Act (CRA)
8. Using AI-Tools

Sources References

2a Results of KIT's Open Source Working Group AK <https://www.rse-community.kit.edu/opensourcelicense.php>
<https://gitlab.kit.edu/kat/researchsoftware-kit/ak-os-licenses>
<https://gitlab.kit.edu/kat/researchsoftware-kit/ak-os-licenses/os-licenses/-/blob/main/Documentation/Links.md>

2b Open Source Handout KIT-Legal <https://www.recht.kit.edu/1039.php>

2d Link to LCD relevant videos of Dirk's talk „Outlicensing and exploitation of research Software – What's about SBOMs?“ and of Tomas Stary's Demonstration of Fossology at staff workshop at KIT's neulandtag, 12.06.24:
<https://www.techtransfer.kit.edu/commercialize-software.php> and furthermore a second video of Tomas Stary, demonstrating Fossoilog available at KIT-open <https://doi.org/10.5445/IR/1000182356>

2e 9.1.4 LCD-Team at deRSE2025
<https://events.hifis.net/event/1741/contributions/13382/>
Three Lessons learned - How RSEs Succeed in License Management Drees, T., Feuchter, D., Stary, T., & Winandi, A. (2025, February 25). Three Lessons Learned: How RSEs Succeed in License Management. 5th conference for Research Software Engineering in Germany (deRSE25), Karlsruhe Institute of Technology.
Zenodo. <https://zenodo.org/records/15582177> bzw. <https://doi.org/10.5281/zenodo.15582177>

3c other LCD- relevant Tools Inbound licensing with ease - „Cla-Bot“ Dirk Brömmel und Robert Speck FZJ
<https://go.fzj.de/CLA-Bot> doi:10.5281/ZENODO.14945455 doi:10.34734/FZJ-2025-01846 // <http://selector.harmonyagreements.org/> und „contributoragreements.org“ // License Checker Uni Stuttgart : <https://checklicense.uni-stuttgart.de/> <https://github.com/izus-fokus/LicenseChecker> // SCA Tool : <https://scatool.com/> // EU's Licensing Asssitant <https://interoperable-europe.ec.europa.eu/collection/eupl/solution/licensing-assistant>

4: Associations Links: <https://osadl.org> and <https://openchainproject.org/> and <https://fosdem.org/> and FOSDEM's SBOM Dev Room in 2025: <https://video.fosdem.org/2025/h2213/> and Hashtag#SBOM and FOSDEM's Legal and Policy Issues DevRoom in 2025 : <https://video.fosdem.org/2025/h1301/> and Hashtag#CRA and FOSDEM's Fringe FOSS license and security compliance tools workshop in 2025: → <https://workshop.aboutcode.org> and Hashtag#AboutCode

4b: *Joining Eclipse Foundation*: <https://www.eclipse.org/projects/handbook/#starting> <https://www.eclipse.org/openchain/ECA> → <https://www.eclipse.org/legal/eca/>

5. Guidelines from Research Partners. <https://www.kit-technology.de/en/blog/when-software-meets-transfer-and-github.com/gi-ev/RSE-software-entwicklungs-leitlinien> and dl.gi.de/items/Odd86860-ce29-4257-acfd-3d05696b842e and <https://www.fz-juelich.de/en/rse/fzj-software-engineering-and-resources/software-guideline-of-the-forschungszentrum-Julich> and [fz-juelich.de/de/innovation](https://www.fz-juelich.de/de/innovation)

6. Exchange with external experts: Georg Link : Connecting SBOMs with OSS Project Health to Better Understand Dependencies <https://fosdem.org/2025/schedule/event/fosdem-2025-5715-connecting-sboms-with-oss-project-health-to-better-understand-dependencies/> AND What Does Swiss Cheese Have to Do with Open Source?: A Layered Approach to Software Supply Chain Security <https://bitergia.com/swiss-cheese-approach-to-open-source-software-supply-chain-security/> blog post by Julia Lawson and Georg Link. 26.06.2025 <https://lnkd.in/gr4c4fjX> AND What do maintainers need from funders and others? We asked maintainers to find out. <https://fosdem.org/2025/schedule/event/fosdem-2025-5680-what-do-maintainers-need-from-funders-and-others-we-asked-maintainers-to-find-out/> AND Prof. Dr. Dirk Riehle: <https://oss.cs.fau.de/person/riehle-dirk/> AND Thomas Graf : <https://www.bitkom.org/sites/main/files/2023-10/BFOSS23-Praesentation-Graf-License-Compliance-und-Automatisierung.pdf> AND – auf dem Karlsruher Entwicklertag: SBOM Was ist das? Brauche ich das? <https://entwicklertag.de/programm/sbom-was-ist-das> AND Dr. Holger Streidl: <https://www.kit.edu/kat/veranstaltungs-kalender.php/event/40749> Kurzer Bericht Verant. Mit ZEISS–SoftwareLizenzierung21.10.21.pdf sowie die drei Foliensätze von Dirk Feuchter, Holger Streidl und Michael Richter → Please contact dirk.feuchter@kit.edu

7. Cyber Resiliant Act: <https://training.linuxfoundation.org/express-learning/understanding-the-eu-cyber-resilience-act-cra-lfel1001>

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Pictures on slides 1, and 20: KI-generated with Copilot.

Pictures on slides 7, 21 and 22: downloaded from pexels.com

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[1] AI Could Be Your Next Team for Clean Room Development – Copyleft Currents H. Meaker

[2] Next-Level Software Development Computerprogrammenschutz und weitere rechtliche Stolpersteine beim Einsatz von Code-generierender KI in der Praxis, Dr. Lisa Käde // MMR 2024.142 //

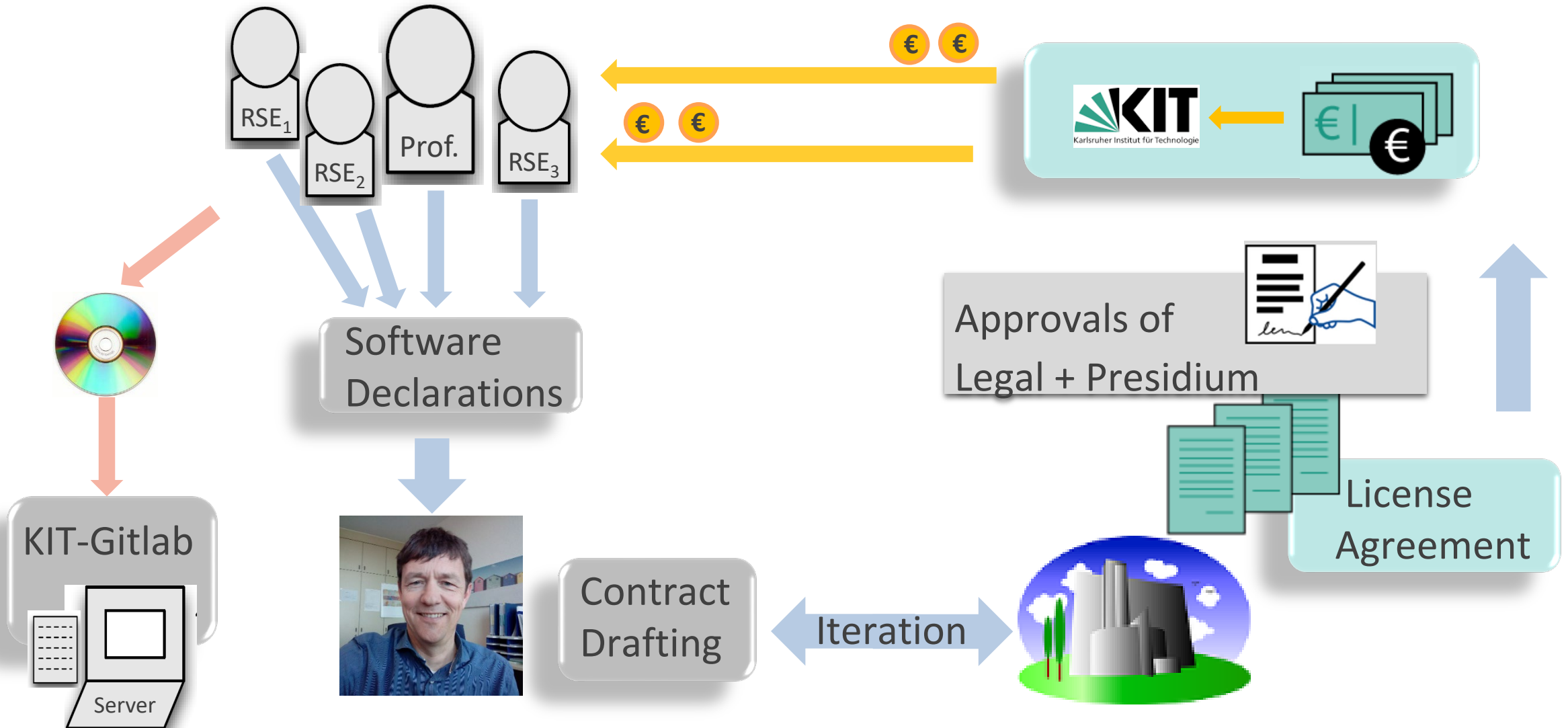
[3] Zur Diskussion der Auswirkung von Open Source-lizenzierten Trainingsdaten s.Siglmüller/Gassner RDi 2023, 124 sowie Endres/Mühleis MMR 2023, 725. Vgl. Ziegler (2021), Copilot: Parrot or Crow? A first look at rote learning in Copilotsuggestions, abrufbar unter: <https://github.blog/2021-06-30-github-Copilot-research-recitation/>; Chen et al. (2021), Evaluating Large Language Models Trained on Code, S.13, abrufbar unter: <https://arxiv.org/pdf/2107.03374.pdf>.

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Some Tools used for AI-generated Coding: ChatGPT v.OpenAI, Copilot v.Microsoft, Gemini 2.5 v.Google's DeepMind, PaLM2 v.Google, AlphaCode v.GoogleTochter Deepmind, StarCoder v.Huggingface in Zus.arbeit mit ServiceNow Research Claude v.Antrophic, Cursor v. Cursor AI Inc. / Anysphere, TabNine v. Codota Ltd, Kite v. Kite Inc, Perplexity AI v. Perplexity AI Inc, Blablador v. FZJ, Google AI Studio v. Google, DeepSeek v. Linag Wenfeng's DeepSeek, AI assistants v. GWDG,

1a PROCESS OF SOFTWARE-OUTLICENSING FOR PAYMENT

Confidential and KIT-internal only



Confidential and KLT-internal only

We developed in the execution of
our duties as employees of KIT
(→§69b UrhG)

Neither internal nor external contributions contain components*, that restrict the planned commercial licensing;

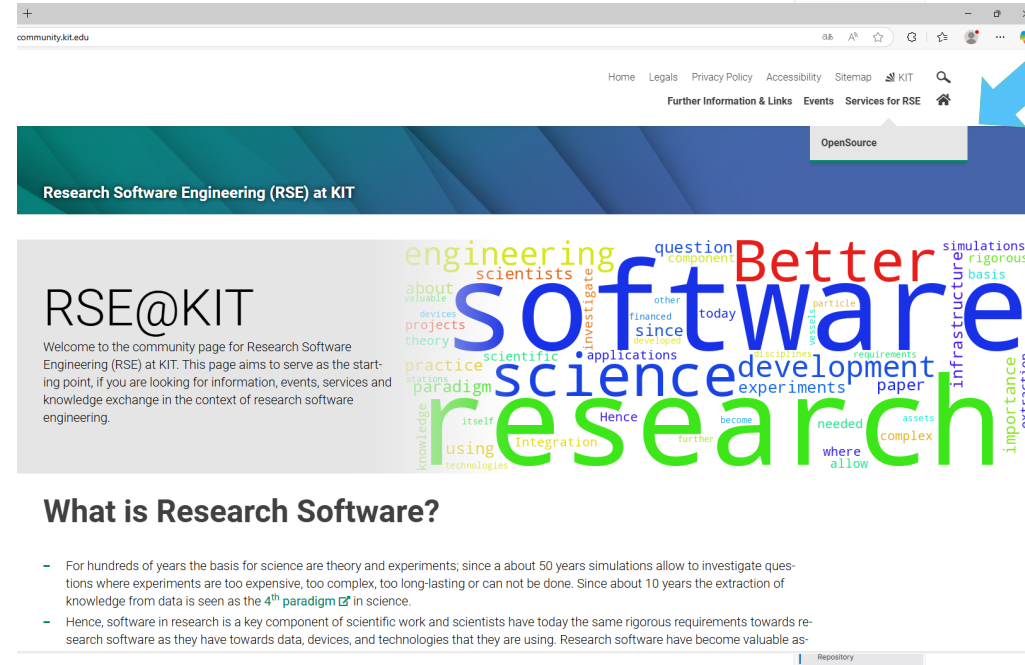
(*e.g. copy-paste snippets, copyleft code or students' code)

We record all the way long any computerprogram- component in an **SBOM** (Software Bill Of Materials)



2a Working Group Open Source@ KIT

Confidential and KIT-internal only



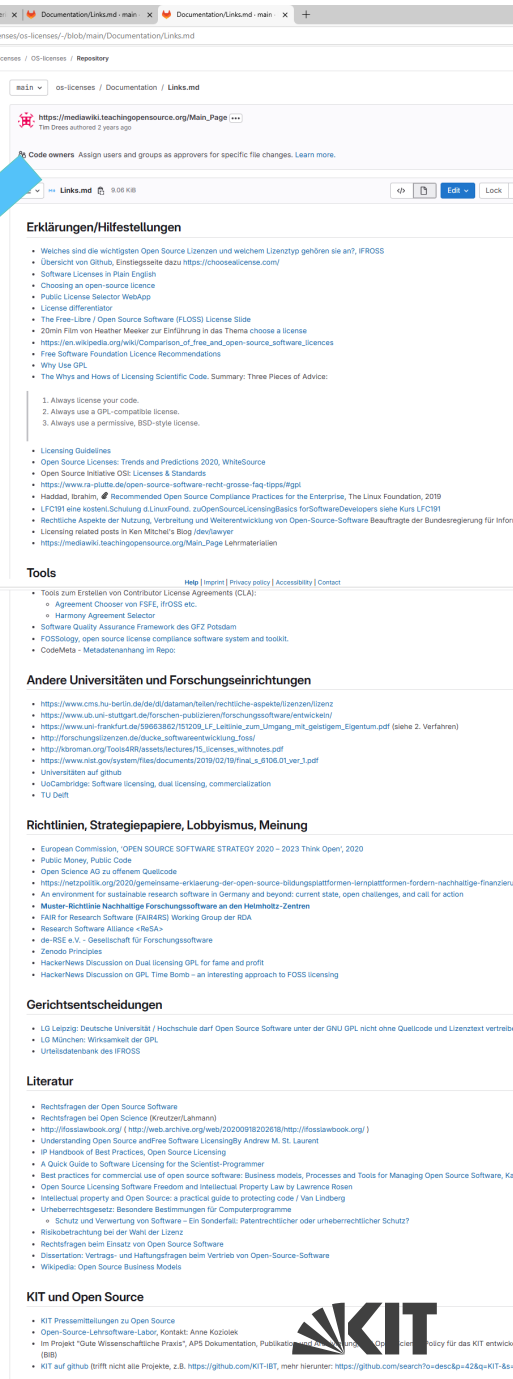
What is Research Software?

- For hundreds of years the basis for science are theory and experiments; since a about 50 years simulations allow to investigate questions where experiments are too expensive, too complex, too long-lasting or can not be done. Since about 10 years the extraction of knowledge from data is seen as the 4th paradigm in science.
- Hence, software in research is a key component of scientific work and scientists have today the same rigorous requirements towards research software as they have towards data, devices, and technologies that they are using. Research software have become valuable as-

Table of Contents

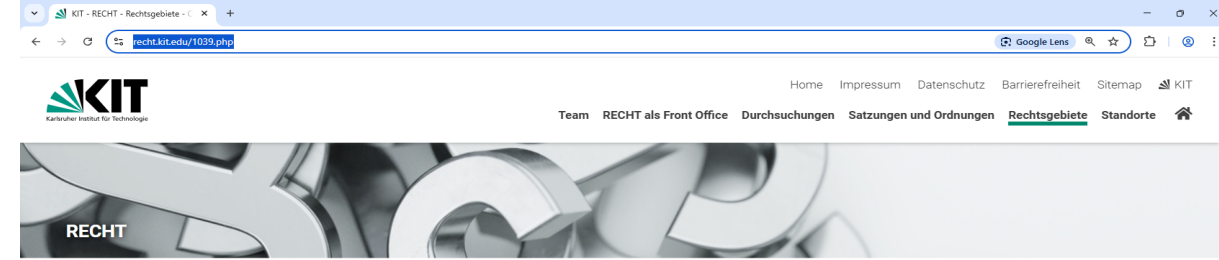
- 1 Choosing a License
- 1.1 Interests of the superordinate OU and KIT.
- 1.2 Consideration of project partners and code contributors. Clarify the licensing framework conditions.
- 1.3 Decision on license
- 1.4 Compatibility matrix of OpenSource licenses
- 2 Tools for the development of software projects
- 3 License handling - Contributor Agreements: templates and documentation
- 3.1.1 Simplified license marking and copyright notices
- 3.1.2 Inbound=outbound
- 3.1.3 Extended procedure with license header
- 3.1.4 Licenseheaderdesign in License.md or in sourcecodefiles
- 3.2 Rights transfer via ContributorAgreements
- 3.2.1 Simple procedure via header identification
- 3.2.2 Manual agreements
- 3.2.3 In case of unclear contractual situation
- 4 Inclusion of meta-data
- 4.1 Project specific metadata
- 4.2 Comprehensive metadata in standardized formats for retrieval and archiving in persistent repositories (e.g. RADAR4KIT)
- 5 Cookiecutter KIT-template:
- 5.1 Instructions for using the cookiecutter template
- 6 Further documentation

Coordinated by Jürgen Engelmann (IAI)



2b KIT's Open Source Software Handout

- ➔ Thank you Tim Drees,
- ➔ Intranet at KIT Legal,
- ➔ Question-and-Answer Format,
- ➔ Highlighting values of LCD of OSS
- ➔ Sensitizes Readers to legal frameworks
- ➔ Examples MIT and GPL
- ➔ Practical Guidance in the context of ISO5230.
- ➔ Strategic Decision with Prof/PI



Open Source Software

Hier finden Sie unsere Handreichung im PDF-Format.

Free/Libre Open Source Software (FLOSS oder nachfolgend FOSS) hat in den letzten zwanzig Jahren sowohl in Forschung als auch Industrie enorm an Bedeutung gewonnen: viele Forschende nutzen solche Programme Dritter für die tägliche Arbeit. Veröffentlichen sie neu- oder weiterentwickelten Code als FOSS, erleichtern sie es anderen Forschenden auch, die publizierten Ergebnisse im Sinne guter wissenschaftlicher Praxis zu replizieren, validieren oder falsifizieren. FOSS-Lizenzen erleichtern außerdem einrichtungübergreifende Softwareentwicklungsprojekte, die typischerweise auf Plattformen mit Versionskontrollsystemen verwaltet werden. Sensoren und Maschinen-Treiber ruhen oftmals auf einem branchenweiten FOSS-Standard; Dienste, Bibliotheken, Protokolle und Anwendungssoftware in Rechenzentren sowie verteilten IT-Umgebungen ebenso.

Was zeichnet FOSS aus? Unterfällt FOSS dem Urheberrecht?

FOSS bezeichnet Software, die man uneingeschränkt ausführen, analysieren und verbessern kann und die man in Quellcodeform unter einer bestimmten FOSS-Lizenz erhält und dieser entsprechend weitergeben darf. Dies bedeutet nicht, dass es an solcher Software keine Urheberrechte gibt oder diese außer Acht gelassen werden können. FOSS unterscheidet sich von nicht-offenen oder kommerziell verteilten Software dem jeweils geltenden Urheberrecht.



2c RSE-Team for LCD @ KIT?

- Are there RSEs willing to care about LCD?
- 6.12.23 at TRIANGEL : 2 people from IST and one person each from FAST and IBT
- 27.2.24 at IBT (hosted by Dr. Tomas Stary) two people from IIP and one person each from FAST, IBT and TECO.



actually
sounds exciting

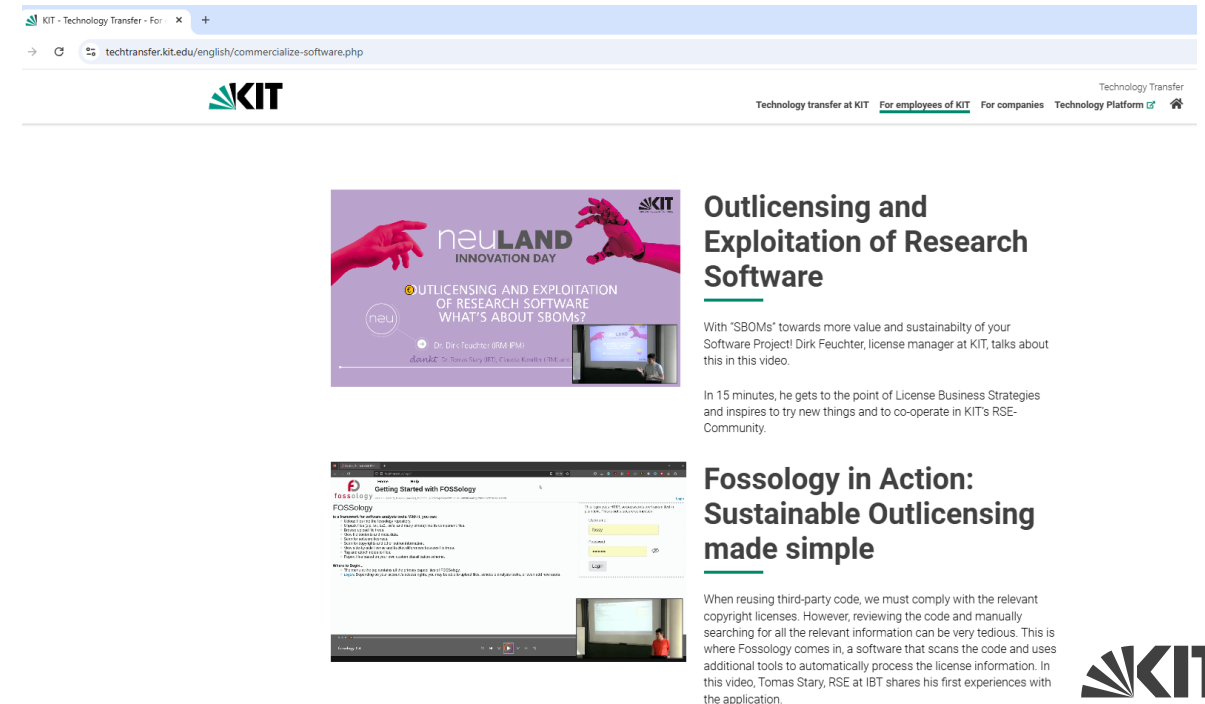
Potential for
Sustainability

That's
counterproductive...

2d KIT-staff-workshop at neulandtag 12.6.24

- Dirk Feuchter Outlicensing and Exploitation of Research Software What's about SBOMs?
- Tomas Stry took a look at Software Fossology
- attended workshop at OSADL in Heidelberg
- Hence, LCD-relevant presentations at KIT-staff-workshop at neulandtag
- Videos can be rewatched in KIT-intranet

Who wants to build on this
and would like
to get more deeply involved
in Fossology?



The screenshot shows the KIT Technology Transfer website. The top navigation bar includes links for 'Technology transfer at KIT', 'For employees of KIT', 'For companies', and 'Technology Platform'. The main content area features two video presentations:

- Outlicensing and Exploitation of Research Software**: A video by Dirk Feuchter, license manager at KIT, discussing SBOMs and their value and sustainability. The video is 15 minutes long and covers License Business Strategies and co-operation in the RSE-Community.
- Fossology in Action: Sustainable Outlicensing made simple**: A video by Tomas Stry, RSE at IBT, sharing his first experiences with the Fossology application. The video explains how Fossology helps in reviewing third-party code and processing license information.

2e LCD-Team at deRSE2025

<https://zenodo.org/records/15582177>



3a Tool FOSSOLOGY

→ @deRSE25 presented by Tomas Stary

→ available under GPL 2.

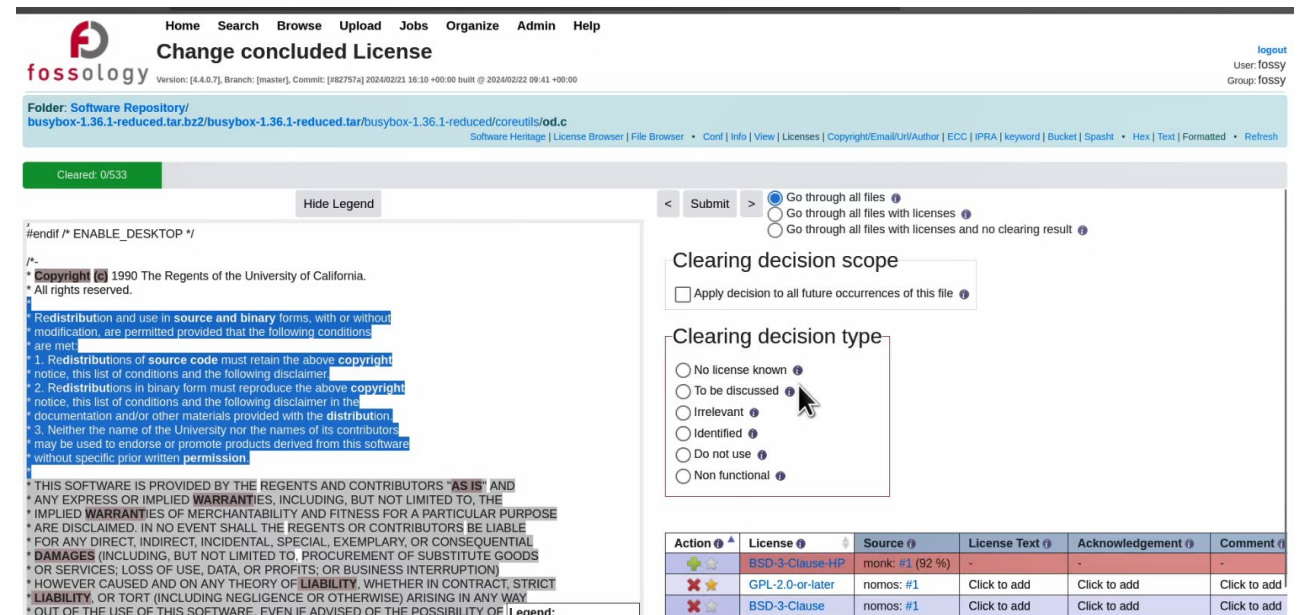
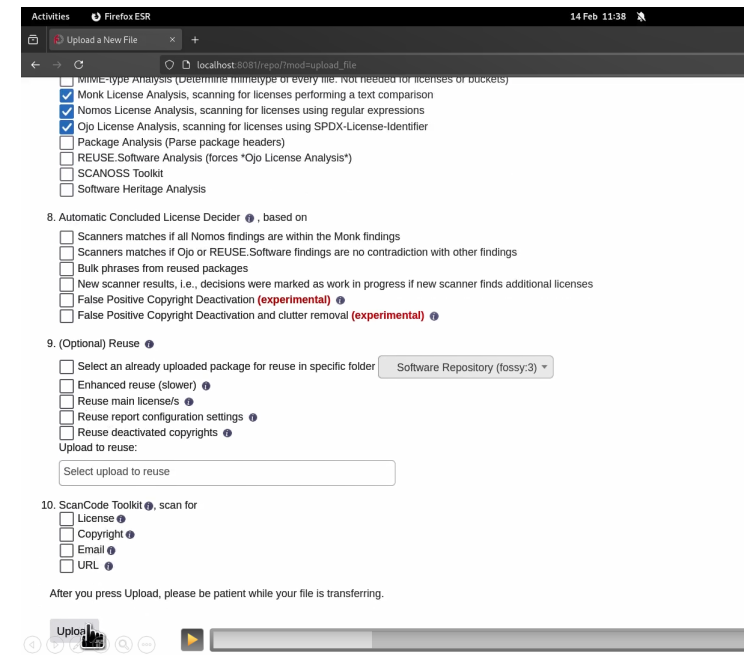
→ comprehensive tool to manage software license risks

→ detects copyright information with variety of scanners

→ allows to review and curate manually the result

→ thin out redundancies and clear inconsistencies

→ finally, export results in SPDX and share SBOM with partners



Action	License	Source	License Text	Acknowledgement	Comment
👍	BSD-3-Clause-HP	monk: #1 (92 %)	-	-	-
👎	GPL-2.0-or-later	nomos: #1	Click to add	Click to add	Click to add
👎	BSD-3-Clause	nomos: #1	Click to add	Click to add	Click to add

3b Tool REUSE

➔ @deRSE25 presented by Achim Winandi

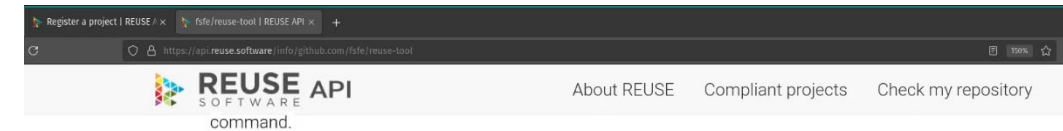
➔ <https://doi.org/10.5281/zenodo.15582177>

reuse annotate

reuse.toml

reuse download

reuse lint



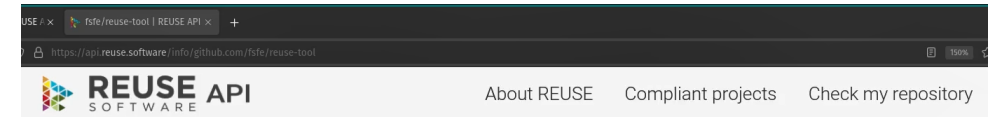
Last lint output

Commit `5074e95036607e639fad2734fec7c12ccdb95931` was checked on 20 Feb 2025 13:09:51 UTC with the following result:

```
# SUMMARY

* Bad licenses: 0
* Deprecated licenses: 0
* Licenses without file extension: 0
* Missing licenses: 0
* Unused licenses: 0
* Used licenses: CC-BY-SA-4.0, Apache-2.0, CC0-1.0, GPL-3.0-or-later
* Read errors: 0
* Files with copyright information: 134 / 134
* Files with license information: 134 / 134

Congratulations! Your project is compliant with version 3.2 of the REUSE Specification :-)
```



REUSE compliance of fsfe/reuse-tool

Congratulations, `github.com/fsfe/reuse-tool` is REUSE compliant! This project adopts the recommendations to make software licensing easy for humans and machines alike.

Badge

REUSE compliant

To add the badge to your project's `README.md` file, use the following snippet:

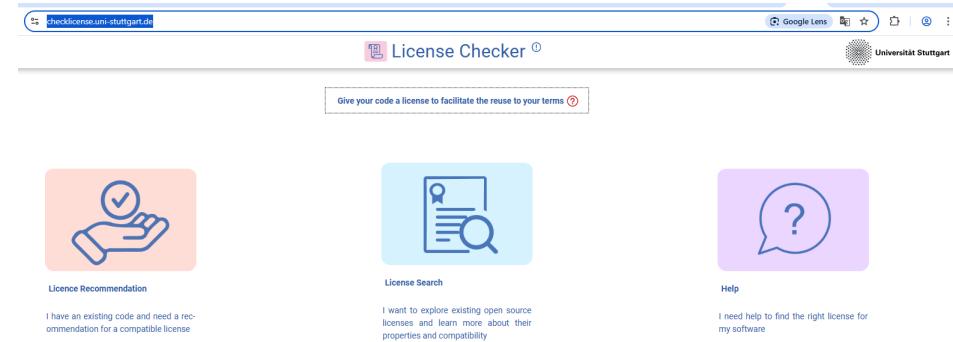
```
[![REUSE status](https://api.reuse.software/badge/github.com/fsfe/reuse-tool)](https://api.reuse.software/info)
```

3c Other LCD-tools to be tested by KIT's RSEs

→ FZJ's cla-bot



→ **License Checker**, Uni Stuttgart
Ontology based



→ **SCA Tool** FAU, Erlangen

→ **Licensing Assistant**



4 Join in and learn from „Associations“

→ OSADL (workshops, **checklists** etc.)

→ Open Chain Work/Study Groups

- Tooling WG, SBOM SG, Education WG, AI SG, Specification WK, Automotive WG, Regional WGs



→ FOSDEM @ ULB

→ ...

→ SBOM Dev Room

→ Legal and Policy Issues DevRoom

→ Fringe FOSS license and security compliance tools workshop

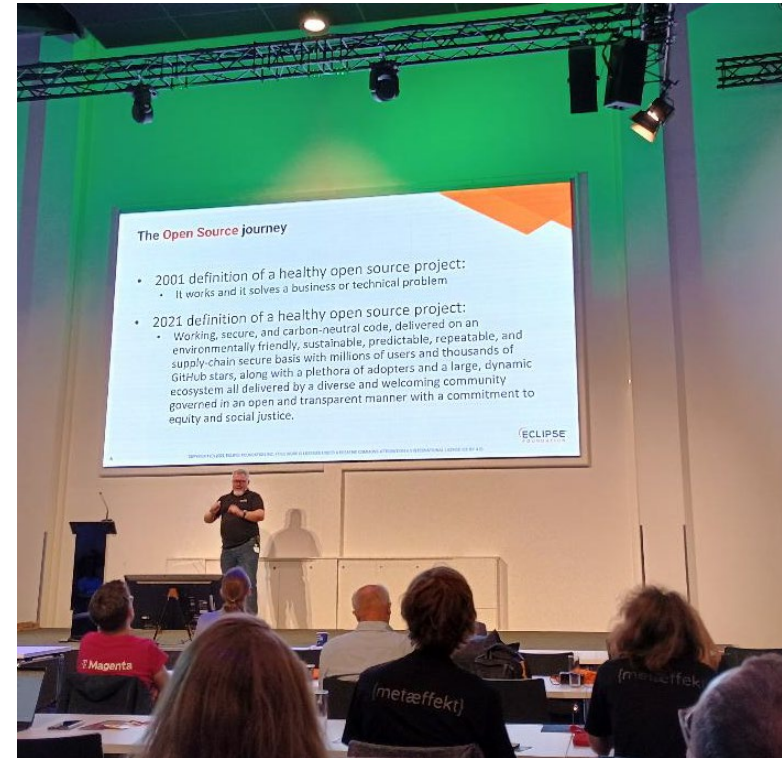


→ Foundations

- Linux Foundation,
- Apache Foundation,
- Open Logistics Foundation,
- ...,
- **Eclipse Foundation** →

4b Join Eclipse Foundation?

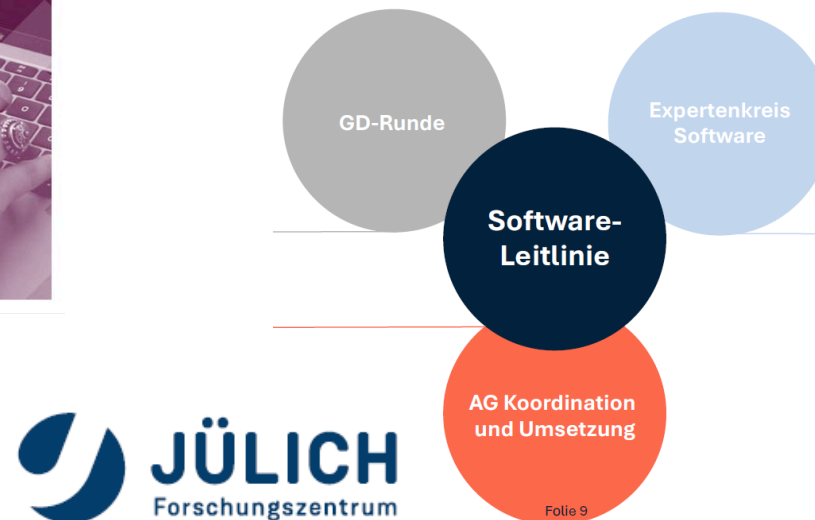
- Academic Membership
- Eclipse-label and thus **LCD**-konform
- ECA → EPL-2.0 and permissive licenses
- KIT-label remaining visible?
- Exchange @ #bfoss
- Exchange with Research partners



#bfoss24



5. Exchange with Research Partners - Guidelines



6. Exchange with external LCD experts?

- Dr. Holger Streidl (ZEISS)
- Prof Dr. Dirk Riehle, FAU
- Dr. Georg Link (CHAOSS)
- KIT-Alumnus



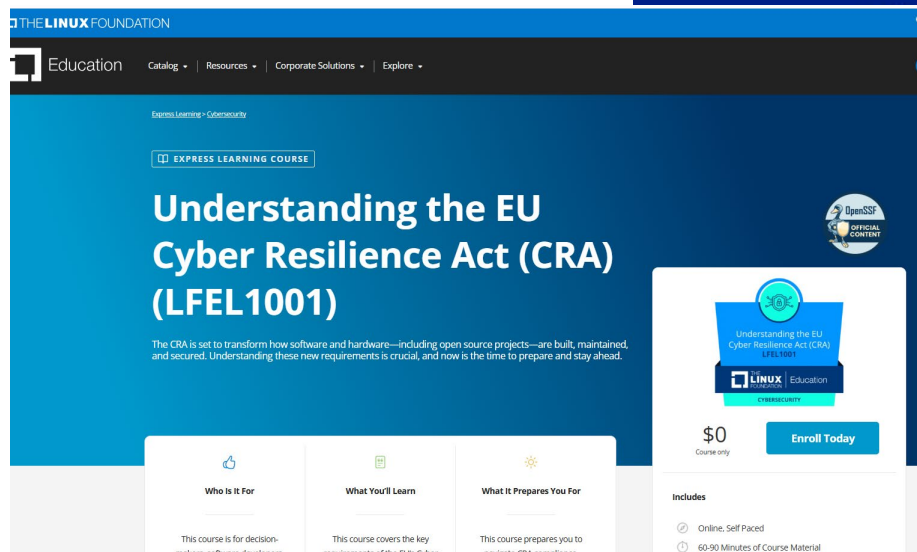
6. Exchange with Alumnus and external LCD-Expert

- Balance effort und benefit; should help you for
 - risk mitigation,
 - sustainability
 - value of your Research Software
- Make sure you have license texts and copyrights together and pass them on during delivery
- An “acap”*-SBOM is better than no SBOM
(*acap = as complete as possible)
- makes you more interesting for industry
- Keep an eye on the legal perspective...
- Possibly talk@KIT => LCD-WK, PIs and interested RSEs?

First
Video-Meeting
with an Alumnus
and
external LCD-Expert

7. CRA: Chance for LCD and the value of RSE?

Confidential and KIT-internal only



CRA at KIT – time to start

→ Who's in?



8. AI based RSE - burden or relief for LCD ?

- *ChatGPT, Copilot, Gemini, ...*
- Tools with Disclaimer?
- Filter and Postprocess-Tools?
- Controlling and Intervention => Copyright
- Completely public domain work unlikely
- Public domain harmless regarding overall protection
- Output usually not identical to 3rd-party code
- See how courts will rule in first cases...

→ *Heather Meeker[1], Dr. Lisa Käde[2], Siglmüller/Glassner[3]*

**Cool,
no burden
for LCD**



Thanks for Your attention!

Looking fwd to **Your Contributions**

pexels.com: @diohasbi

how we could continue and succeed **together** in LCD,
License Compliant Software Delivery within

Chance for LCD and the value of RSE?

→ Requirements from Industry:

“ . . . The Contractor (→ Research Institution) warrants that the delivered code will meet the functional and performance requirements and contain neither vulnerabilities nor damagecode Contractor warrants that the delivered code will fulfill industrial standards according to ISO... and will not infringe copyrights of any third party, . . . ”

■ **License Compliance Delivery** → Open Chain → **SBOM**